

Work Order ID 69226

Thursday, May 05, 2011 11:47:16 AM



Page 1

Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 5/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date: 11-05-11

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3391	Rev H/ DEO

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599

Rev: M & Dwg D3391 Rev: H

scribe batch # on fwd end at 90 degree

mm L / J.F.S. 11/05/11

1 0

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

mm L / J.F.S. 11/05/11

1 0

111

0.00



QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

DL 11/05/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 69226

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Item ID:	D3391-025	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Aft Tube Assembly					
Start Date:	5/5/2011	Start Qty:	1.00		Cust Item ID:	
Required Date:	5/20/2011	Req'd Qty:	1.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine as per Folio FA 599 Rev: <u>GA</u> & Dwg D3391 Rev: <u>H</u> 2-Debur	0.00 0.00		B.A	11/05/24	1	0		
130 QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00		B.A	11/05/24	1	0		
140 QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00		S2	11/05/24				

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Cust Item ID:

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Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150



Skidtubes

Skidtubes

0.00

Memo

0.00

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803



11-5-25

160



CNC Bend 1

BENDING MACHINE - SKIDTUBES

0.00

Memo

0.00

Form as per Dwg D3391 Using Bend Prog 3391025



11-5-25

170



QC

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

H 4.10

BE 4 11/05/25

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Stop



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391 (Holes marked "A" Only).

3-Drill wearplate holes as per Dwg D3391 using DT8878 (Mid Tube) & DT8217
Wearplate Jig.

*****Do Not Open To Finished Size*****

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c/bore as per dwg D3391

6-Open up all wearshoe, wearplate to 0.297" and float bag holes to 0.328" as per
Dwg D3391.

7-Deburr

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Stop



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

11.05.25

200

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

11-05-22

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

DP

11-5-25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Stop



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220		0.00							
	Skidtubes					1	0		BE11/05/25
Skidtubes	Memo	0.00							
Skidtubes	Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: <u>M116677</u> exp. date: <u>08/2011</u> cure time 12hrs as per QSI0015								SL 11/05/26
230		0.00							
	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00							
Quality Control									
235		0.00							
	Pressure Wash per QSI005 4.3					1	0		SL 11/05/26
HandFinish	Memo	0.00							
Hand Finishing	C AND REALODINE AS PER PAR09-043								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	White Gloss(Ref:4.3.5.1) per QS1005 4.3-Alum	0.00							
	<i>M 116964</i>					<i>1</i>	<i>BR</i>	<i>11-5-26</i>	
Powdercoat	Memo	0.00							
Powder Coating	START TIME: <i>1:30</i> OVEN TEMPERATURE: <i>350°</i> FINISH TIME: <i>2:00</i>								
250	QC3- Inspect Part Finish	0.00							
						<i>1</i>	<i>φ</i>	<i>M 11/05/30</i>	
QC	Memo	0.00							
Quality Control									
260	HandFinishing	0.00							
						<i>1</i>	<i>φ</i>	<i>M 11/05/30</i>	
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3391 2-Install Aft Cap as per Dwg D3391 A/R Sikaflex-241/-291 <i>M 116945</i> Sikaflex expiry date: <i>12/01</i>								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 69226

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Item ID: D3391-025

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 5/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/20/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Stop



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

QC5- Inspect part completeness to step on W/O

0.00



0.00

QC

Memo

Quality Control

8 11/05/31

280

Identify as per dwg & Stock Location: w/o

0.00



0.00

Packaging

Memo

Packaging

D412-742-043/364981

1 0 11/05/30

290

QC21- Final Inspection - Work Order Release

0.00



0.00

QC

Memo

Quality Control

11/5/31

MUF

11-05-31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, May 05, 2011 11:47:22 AM

Page 1

Work Order ID: 69226

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly



Start Date: 5/5/2011

Required Date: 5/20/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev B 06-02-07 ECN773 dwg rev. D EC
 IPP Rev:C 06-03-28 Update Manuf. Instructions JLM ☐ ☐ ☐
 IPP rev D 07.03.20 revF dwg EC
 IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD
 IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC
 IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090 ALUMINUM EXTRUSION		Manufactured	No			100	Each	11.0000	1	1			
<div>Location</div> <div> <div>LG</div> <div>56572</div> </div> <div>Loc Qty</div> <div>11</div> <div>11</div> <div>Loc Code</div>													
D3670-4-200 SPACER		Manufactured	No			230	Each	58.0000	4	4			
<div>Location</div> <div> <div>LG</div> <div>68107</div> </div> <div>Loc Qty</div> <div>58</div> <div>58</div> <div>Loc Code</div>													
D2646 Aft Cap		Manufactured	No			270	Each	47.0000	1	1			
<div>Location</div> <div> <div>FP006</div> <div>62678</div> <div>FP-4</div> <div>69019</div> </div> <div>Loc Qty</div> <div>43</div> <div>43</div> <div>4</div> <div>4</div> <div>Loc Code</div>													

mm/ JFS 11/05/31

BE 11/05/25
B 68750 12

2
yl 11/05/30

xl

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

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Page 2

Work Order ID: 69226



Parent Item: D3391-025



Parent Item Name: Aft Tube Assembly

Start Date: 5/5/2011

Required Date: 5/20/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

270

Each

20.0000

1

1



Wearpad

Location

Loc Qty

Loc Code

FP017

20

366804

xl

63313

2

66135

14

66935

4

D3537-7

Manufactured No

270

Each

10.0000

1

1



Wearpad

Location

Loc Qty

Loc Code

FP017

10

56831

3

65146

7

xl

D3553-1

Manufactured No

270

Each

22.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP013

22

56568

22

xl

D3553-3

Manufactured No

270

Each

46.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP

20

31631

20

FP013

26

53480

26

xl

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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 5/5/2011

Required Date: 5/20/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

270 Each

1,379.000

2

2



Phenolic Washer



HL 11/05/30

Location

Loc Qty

Loc Code

FP-A

29

52505

29

ST074

1350

64177

850

66821

500

x2

ALS4-1032-130

Purchased

No

260

Each

1,338.000

14

14



Insert



HL 11/05/30

Location

Loc Qty

Loc Code

ST281

1338

117331

1338

x14

ALS4-1032-225

Purchased

No

270

Each

1,069.000

12

12



Insert



HL 11/05/30

Location

Loc Qty

Loc Code

FP-B

28

110768

28

y12

ST282

1041

110768

1041

AN3C4A

Purchased

No

270

Each

1,984.000

6

6



BOLT



HL 11/05/30

Location

Loc Qty

Loc Code

ST350

1984

117094

984

117313

1000

x6

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Shop Packet Print

Page 3

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Parent Item Name: Aft Tube Assembly

Start Date: 5/5/2011

Required Date: 5/20/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No

270 Each

1,332.000 4

4



Bolt



21 4/05/30

Location

Loc Qty

Loc Code

FP-A

7

115835

7

ST350

1325

115422

49

116419

376

116549

100

117343

500

117508

300

x4

AN960C10L Purchased No

270 Each

0.0000 10

10

NAS1149C0332
R



washer

2117291



(x10) 21 4/05/30

Thursday, May 05, 2011 11:47:23 AM

Shop Packet Print

Page 4

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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 69226
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: H	Page 1 of 1,

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓		Mori Lathe	Control
3.500	+/-0.010	3.503	✓		Mic + T.G.	ED-15
88.93	+/-0.030	N/A				
44.995	+/-0.030	N/A				
Ø3.200	+/-0.010	3.197	✓		micr cnc	CNC-05
88.93	+/-0.030	88.937	✓		Tape	EC-11
Ø3.750	+/-0.010	3.757	✓		micr	CNC-05
30° x 160° chamfer	+/-0.010	N/A				

Measured by: J.F.S. / M.M.L. 11/05/31 **Date:** 11.05.31

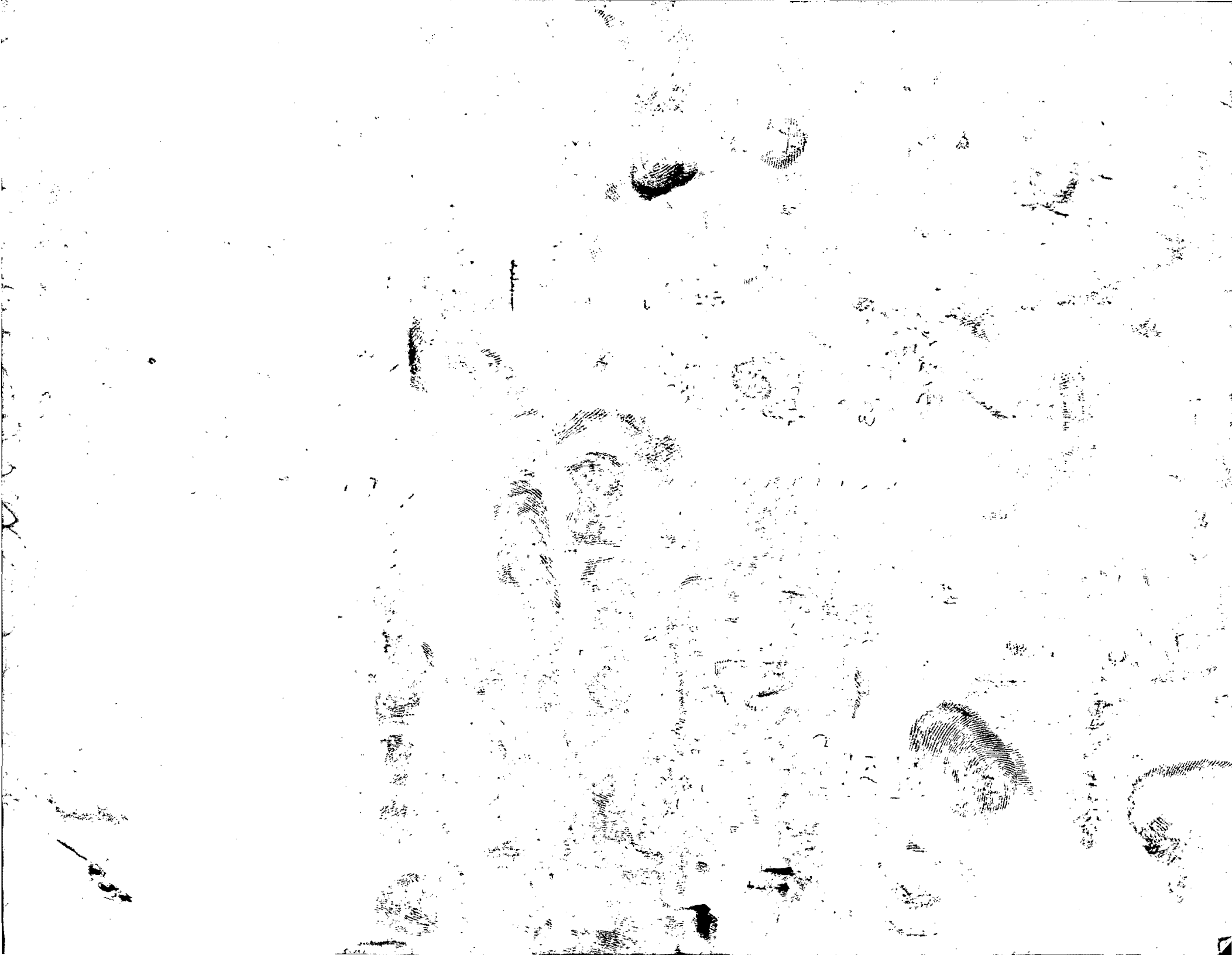
Audited by: J.L. **Date:** 11/05/24

HAAS Section						
1.526	+0.000/-0.030	1.513	✓		Vern	GA-01
7.500	+/-0.010	7.501	✓		Vern	CNC-02
27.750	+/-0.010	27.750	✓		TAPE	GA-12
31.750	+/-0.010	31.750	✓		"	"
35.250	+/-0.010	35.250	✓		"	"
3.300	+/-0.010	3.305	✓		Vern	GA-01
0.200	+/-0.010	0.204	✓		"	"
3.520	+/-0.010	3.522	✓		Mic	GA-10
0.687	+0.010/-0.000	0.690	✓		Vern	GA-01
R0.062	+/-0.010	R0.063	✓		R-G	ref.
Ø0.484	+0.005/-0.001	Ø0.489	✓		Vern	GA-01

Measured by: J.F.S. / M.M.L. / B.A. 11/05/24 **Date:** 11/05/11

Audited by: J.L. **Date:** 11/05/24

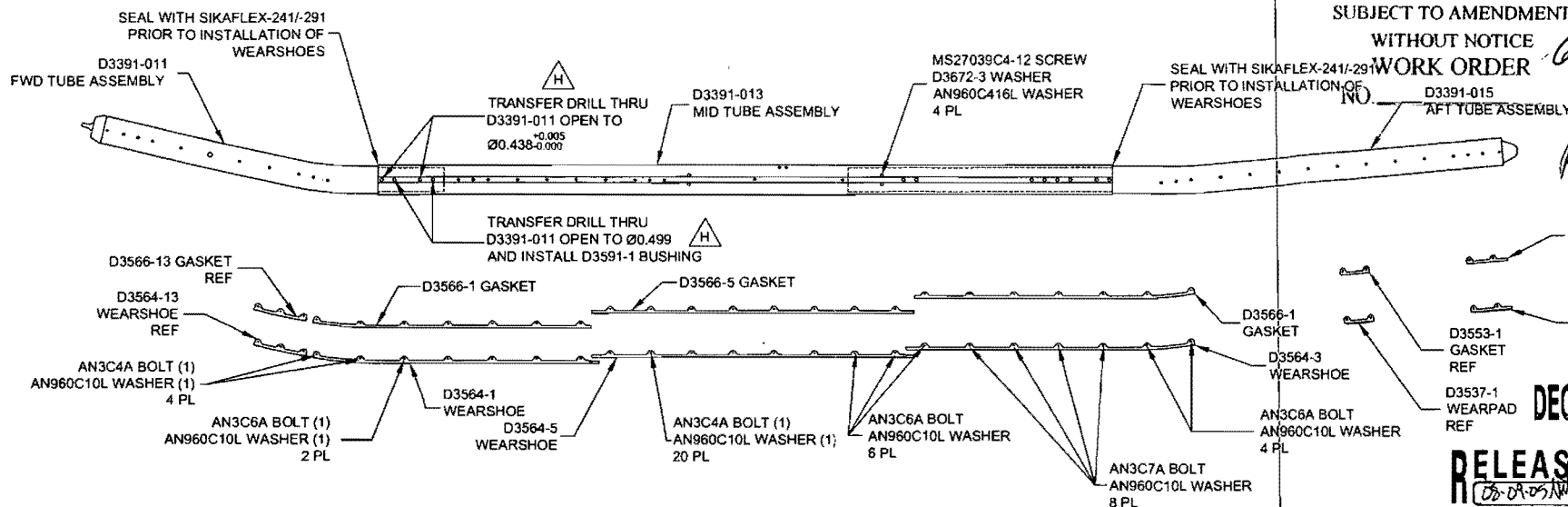
Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	



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0226
11-055



D3391-041 ASSEMBLY

RELEASED
08-08-20

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
1	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27038C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH
AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS
OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. C-BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.08.20		

DART AEROSPACE USA, INC
PORT HADLOCK, WA

DRAWING NO. REV. H
D3391 SHEET 1 OF 8
TITLE SCALE
412 FLOAT SKIDTUBE NTS

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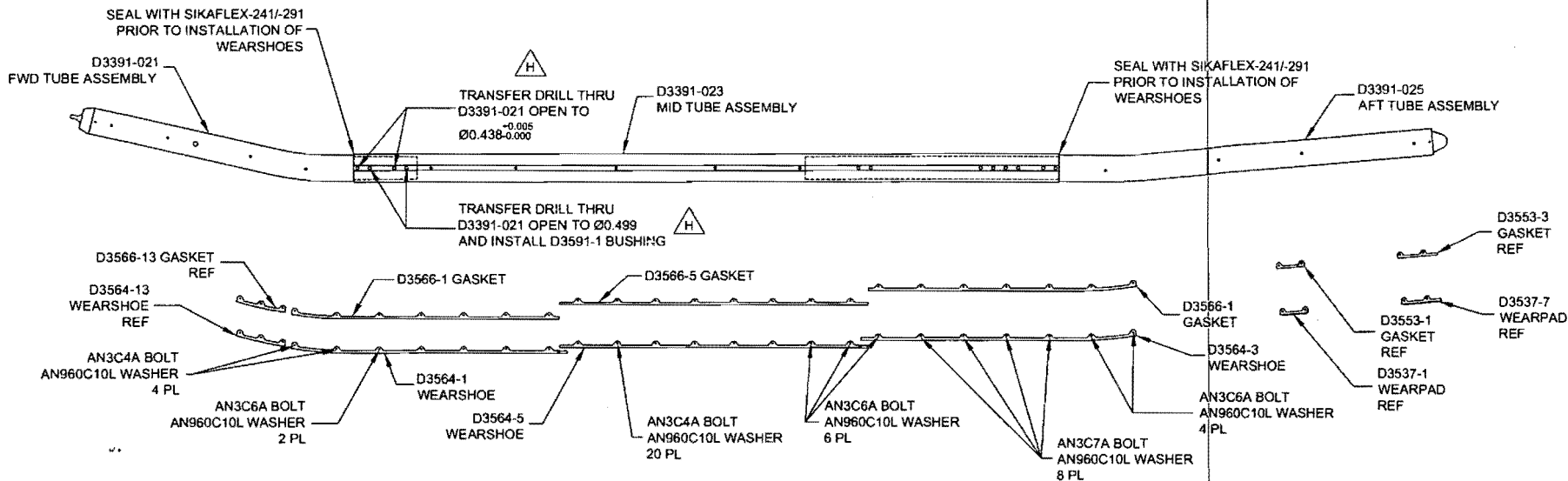
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-043 ASSEMBLY

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-022	MID TUBE ASSEMBLY
1	D3391-023	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
46	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

w/o 09226

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APPROVED		SHEET 2 OF 8
DE APPR.		TITLE 412 FLOAT SKIDTUBE
DATE	08.08.20	SCALE NTS

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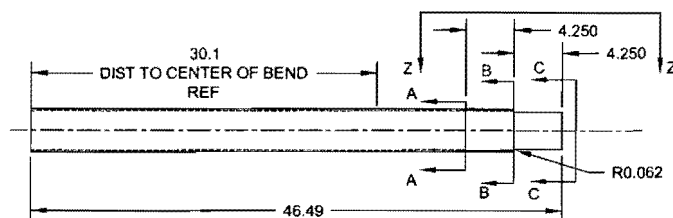
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

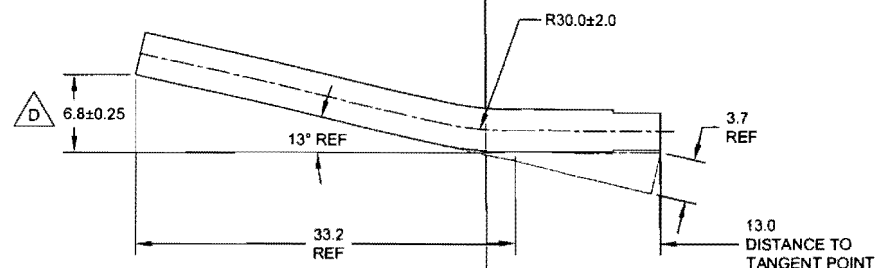
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

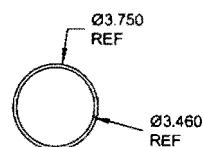
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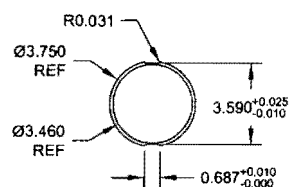
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



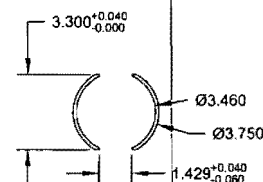
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



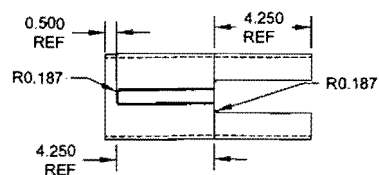
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
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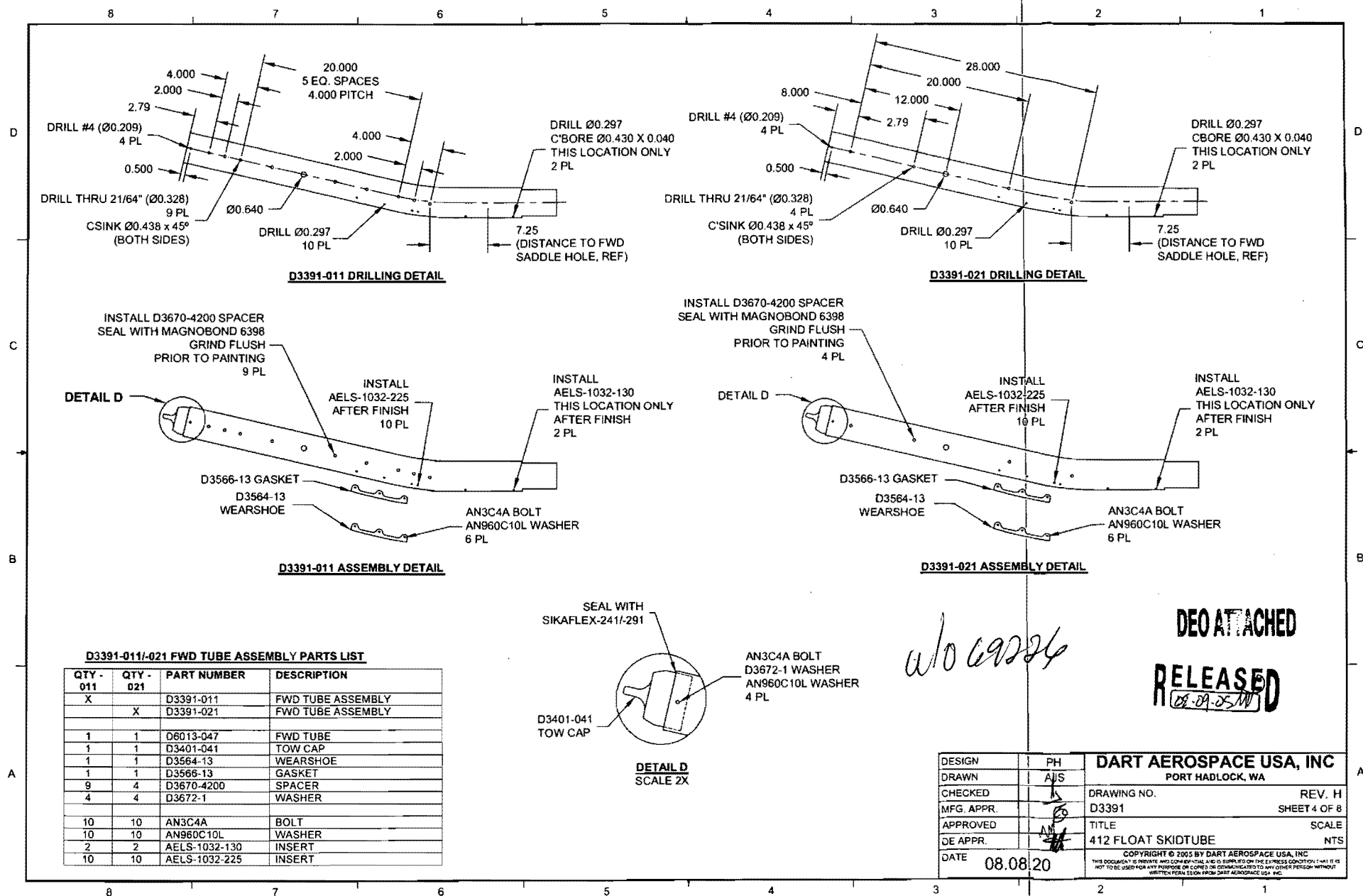
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



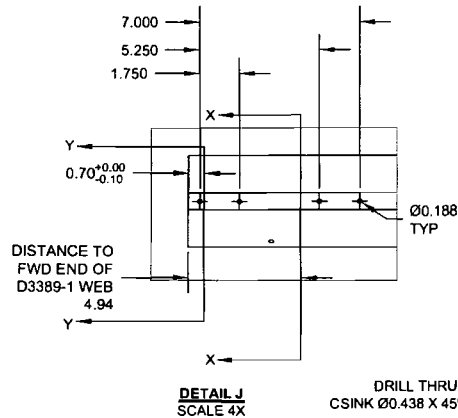
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

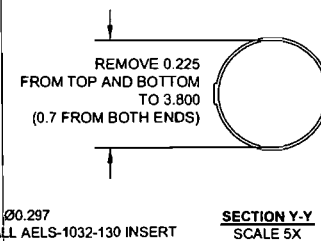
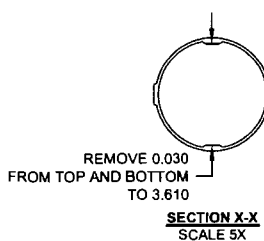
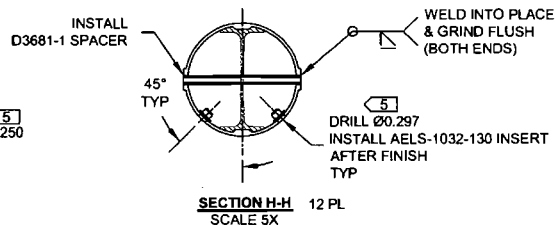
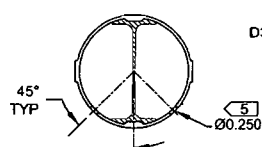
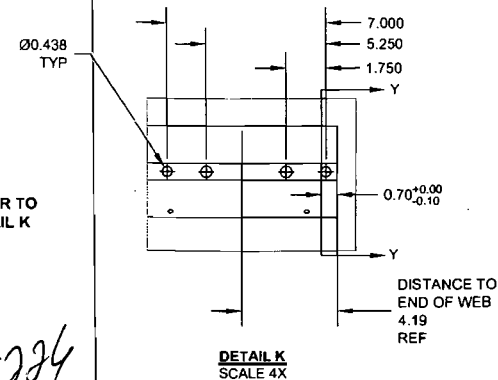
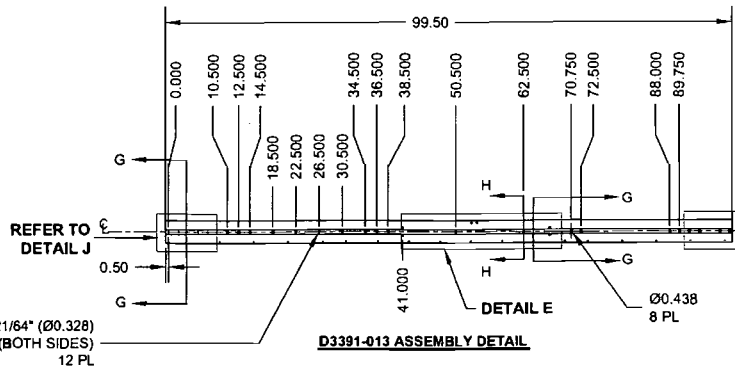
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DRILL THRU 21/64" (Ø0.328)
CSINK Ø0.438 X 45° (BOTH SIDES)
12 PL

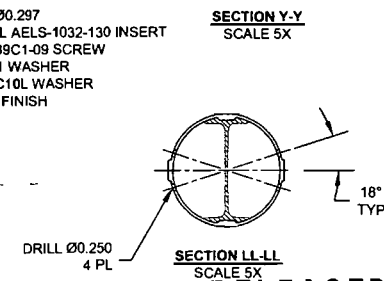
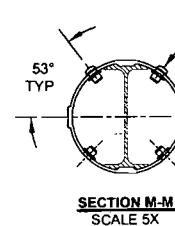
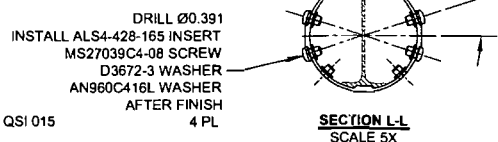
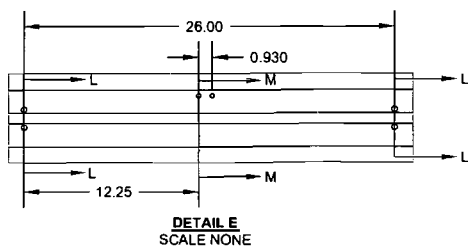


D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
-013		
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART QSI 004



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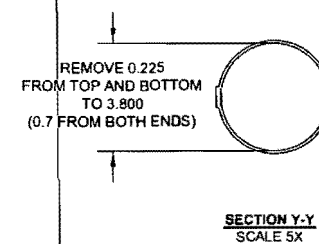
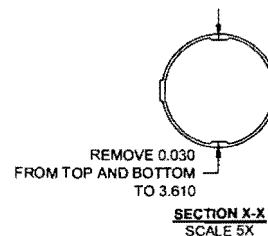
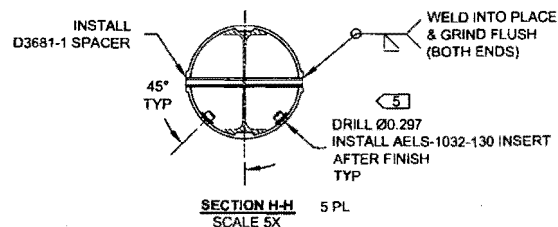
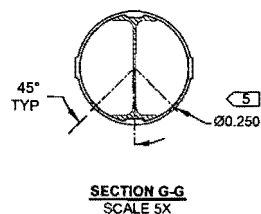
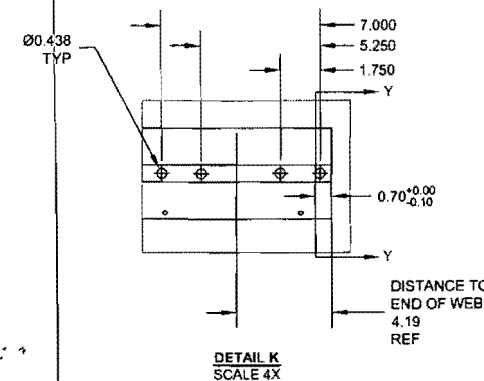
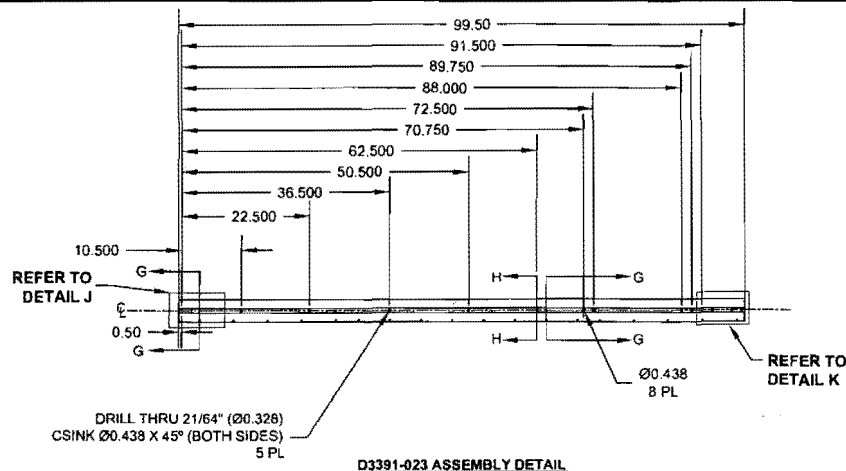
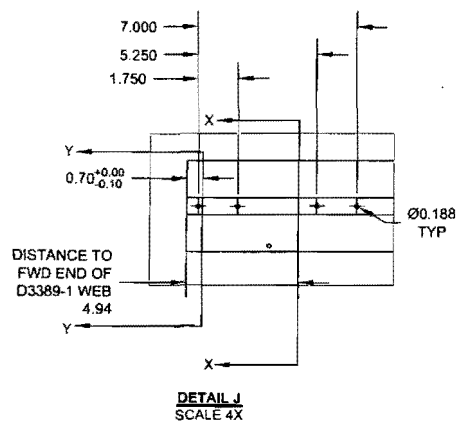
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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MFG. APPR.		D3391	SHEET 6 OF 8
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DE APPR.		412 FLOAT SKIDTUBE	NTS
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08 09 25 14

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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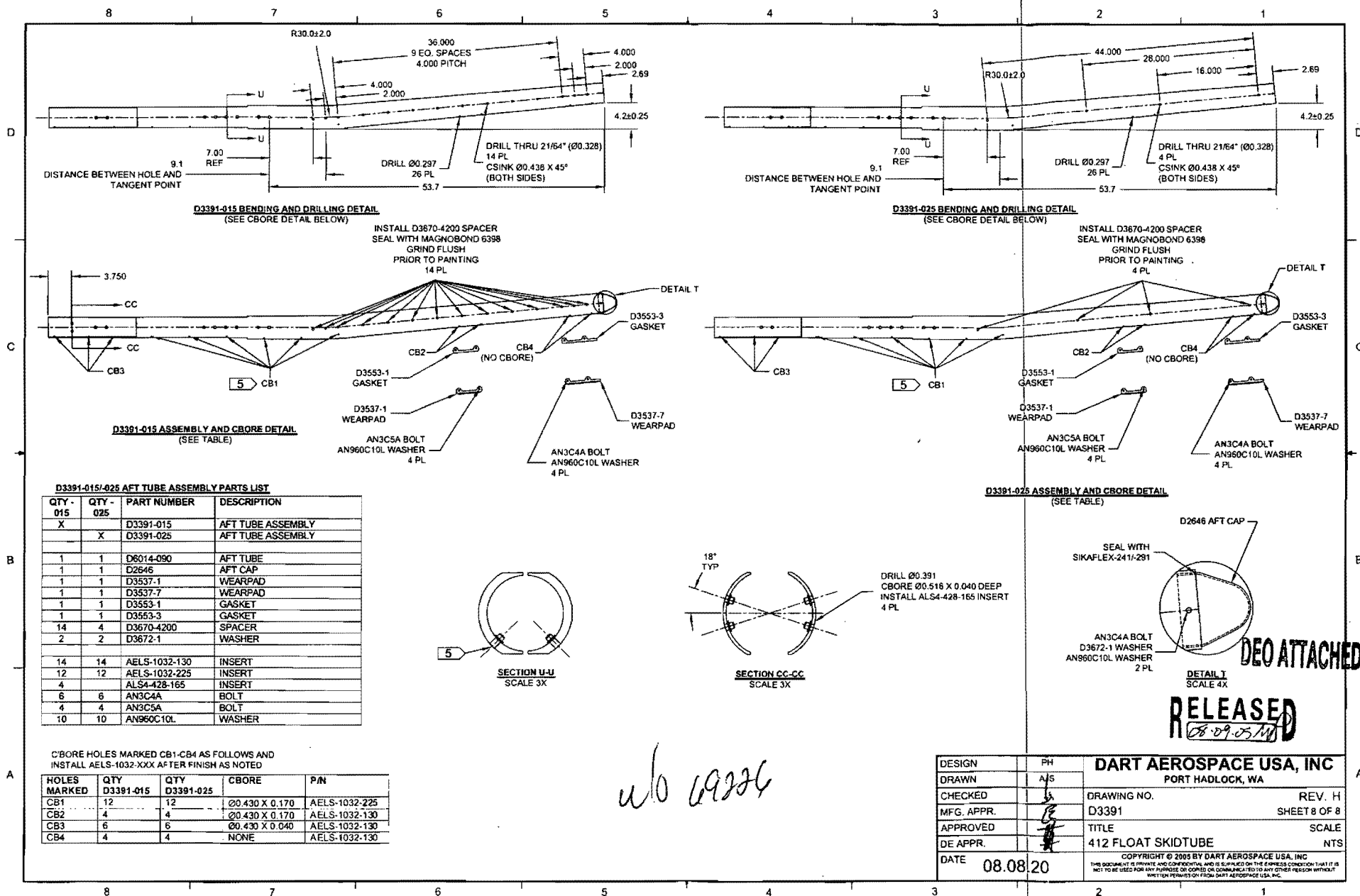
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W/O:		WORK ORDER CHANGES					
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>MP</i>	CHECKED <i>h</i>	MFG. APPR. <i>Δ</i>	APPROVED <i>MP</i>		DE APPR. <i>h</i>		
DATE 09.09.23	DATE 04.09.24	DATE 09/09/25	DATE 09/09/30		DATE 09/09/30		

PURPOSE:

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

CHANGE:

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
 OFF POWDER COATING WITH MEK DEGREASER.

RELEASED
 2010-02-02

MP

u/b 59226

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries